

I claim:

- 1) A method for correcting an optical beam for spherical aberration in a scanning imaging system as received, the method comprising:
 - receiving the optical beam from an external source; and
 - correcting the received optical beam for spherical aberration.
- 2) The method of Claim 1, wherein the spherical aberration correcting comprises sending the optical beam through a plurality of lenses.
- 3) The method of Claim 2, wherein sending the optical beam through a plurality of lenses performs cancellation of spherical aberration created when the optical beam is outputted from the scanning imaging system as a converged optical beam and sent through a flat plate prior to focusing on a target object.
- 4) The method of Claim 3, wherein the plurality of lenses forms an afocal element.
- 5) The method of Claim 4, wherein the optical beam received by the plurality of lenses is a collimated beam having a specific diameter and an output of the plurality of lenses is a collimated beam having the same diameter as the received collimated beam.
- 6) The method of Claim 1, wherein spherical aberration correcting comprises transforming the received optical beam into an annulus.
- 7) The method of Claim 6, wherein transforming the internal optical beam into an annulus comprises performing at least a partial block of the optical beam.
- 8) The method of Claim 7, wherein performing at least a partial block of the optical beam includes blocking a portion of the optical beam with a holographic element.

9) The method of Claim 7, wherein performing at least a partial block of the optical beam includes blocking a portion of the optical beam with a catadioptric element.

10) A scanning imaging system comprising:

an objective for converging an optical beam received from an external source through a flat plate onto an object; and

a component for correcting the optical beam for spherical aberration produced by the flat plate.

11) The system of Claim 10, wherein the component comprises a plurality of lenses.

12) The system of Claim 11, wherein the plurality of lenses performs cancellation of spherical aberration produced by the flat plate.

13) The system of Claim 11, wherein the plurality of lenses comprises two convex lenses and two concave lenses.

14) The system of Claim 11, wherein the component is an afocal element.

15) The system of Claim 10, wherein the component transforms the received optical beam into an annulus.

16) The system of Claim 15, wherein the component partially blocks the optical beam.

17) The system of Claim 16, wherein the component comprises a holographic element.

18) The system of Claim 16, wherein the component comprises a catadioptric element.